

AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions of claims in the application:

LISTING OF CLAIMS:

1. (CURRENTLY AMENDED) A semiconductor Type Two phased locked loop filter having a passive capacitor part and an active resistor part; said active resistor part being integrated with the passive capacitor part,

wherein the Type Two phased locked loop filter operates from a voltage,
wherein the active resistor is continuously variable and is controlled by a regulator
circuit that follows the type two phased locked loop voltage.

2. (PREVIOUSLY PRESENTED) The filter as in claim 1 wherein the active resistor is a standard FET device, the active resistor part having a continuously adjustable resistance.

3. (CANCEL)

4. (PREVIOUSLY PRESENTED) A semiconductor Type Two phased locked loop filter having a passive capacitor part and an active resistor part; said active resistor part being integrated with the passive capacitor part, wherein the Type Two phased locked loop filter operates from a voltage and the active resistor part is controlled by a regulator circuit operating from a voltage that follows the type two phased locked loop voltage.

5. (ORIGINAL) The filter as in claim 4 wherein the regulator circuit is bootstrapped to the phased locked loop voltage using a voltage follower configured op-amp.

6. (ORIGINAL) The filter as in claim 4 wherein the phased locked loop filter has a current and regulator circuit comprising a current source and a voltage source wherein the current source is tied to the phased locked loop filter current and the voltage source is used to tune the active resistor.

7. (ORIGINAL) The filter as in claim 4 wherein the phased locked loop filter has a current and regulator circuit comprising a current source and a voltage source wherein the voltage source is tied to the phased locked loop voltage and the current source is used to tune the active resistor.

8. (ORIGINAL) The filter as in claim 1 wherein all the parts are made in the same CMOS manufacturing step.

9. (CANCEL)

10. (CURRENTLY AMENDED) A method of manufacturing a semiconductor Type Two phased locked loop filter comprising:

providing a passive capacitor part and an active resistor part; said active resistor part being integrated with the passive capacitor part,

wherein the Type Two phased locked loop filter operates from a voltage,
wherein the active resistor is continuously variable and is controlled by a regulator
circuit that follows the type two phased locked loop voltage.

11. (PREVIOUSLY PRESENTED) A method as claimed in claim 10 wherein all the parts are made in the same CMOS manufacturing step whereby no special steps for including resistor components is required.

12. (PREVIOUSLY PRESENTED) The filter as in claim 1 wherein a resistance of the active resistor is controlled by a feedback loop coupled to an input of the active resistor part.

13. (PREVIOUSLY PRESENTED) The filter as in claim 1 wherein a capacitor is positioned between a drain side of the active resistor part and ground.
14. (PREVIOUSLY PRESENTED) The filter as in claim 1 wherein the passive capacitor part includes two capacitors, wherein the filter has two poles, wherein the active resistor part adjusts the poles simultaneously.
15. (PREVIOUSLY PRESENTED) The filter as in claim 1 wherein the passive capacitor part includes two capacitors, wherein the active resistor part is coupled parallel to a capacitor not directly coupled to ground.
16. (PREVIOUSLY PRESENTED) The filter as in claim 1 wherein the active resistor part is controlled by a regulator circuit, wherein the regulator circuit comprises a current source and a voltage source.
17. (CURRENTLY AMENDED) The filter as in claim 9 A semiconductor phased locked loop system comprising:
a charge pump,
a voltage controller oscillator, and
a Type Two filter comprising a passive capacitor part and an active resistor part,
said active resistor part being integrated with the passive capacitor part,
wherein the Type Two phased locked loop filter operates from a voltage, wherein the active resistor is continuously variable and is controlled by a regulator circuit that follows the type two phased locked loop voltage.
18. (CANCEL.)
19. (CURRENTLY AMENDED) The filter system as in claim [[9]] 17 wherein the active resistor part has a continuously adjustable resistance.

20. (PREVIOUSLY PRESENTED) A method as claimed in claim 10 wherein the active resistor part has a continuously adjustable resistance.